

Listing of the Claims:

Claim 1 (currently amended): An electrical connector comprising:
a first connector body having interior walls defining an interior volume and first and second axially opposite open ends;
means defining a plurality of wire channels in said first end extending into the interior volume;
conductive terminals disposed in at least some of said channels;
printed circuit board guide structures on the interior walls to receive and hold a printed circuit board within said volume;
a printed circuit board disposed within and held by said guide structures and having a lead edge with edge contacts in electrical contacting relationship with the conductive terminals disposed in said channels, the printed circuit board having laterally opposite edges adjacent the lead edge and a detent notch formed in at least one of said laterally opposite edges;
at least one bar in the guide structures on the interior walls of the first connector, the at least one bar interacting with the detent notch to hold the printed circuit board in position;
a second connector body having interior walls defining an interior volume and first and second axially opposite ends, said second connector body being of such size and shape as to fit telescopically into the second end of said first connector body;
~~a printed circuit board disposed within and held by said guide structure and having edge contacts in electrical contacting relationship with the conductive terminals disposed in said channels;~~
means defining a plurality of parallel wire guide channels in the second end of said second connector body and conductive terminal means in at least some of said channels; and
latch means having first and second complementally interengaging portions on said first and second connector bodies to releasably latch said bodies together when telescopically engaged.

Claim 2 (currently amended): The apparatus as defined in claim 1 wherein said detent notch and bar provide further including a position assurance feature associated with said first connector body for accepting the printed circuit board into said guide structures ~~channels~~ in only one predetermined orientation.

Claim 3 (currently amended): The apparatus as defined in claim 1 further including a position assurance means insertable into said first connector body at right angles to an said axis extending between said first and second axially opposite open ends of said first connector body to block movement of said printed circuit board from the inserted position.

Claim 4 (canceled)

Claim 5 (currently amended): The apparatus as defined in claim ~~4~~1 further including a latching mechanism insertable into the first end of said first connector body, the latching mechanism having at least one arm for projecting behind the at least one bar to keep the bar from releasing from the detent notch for supplementing the detent means holding the printed circuit board in the inserted position within the guide structure of the first connector body.

Claim 6 (original): The apparatus as defined in claim 1 wherein the first and second connector bodies are made of molded plastic.

Claim 7 (currently amended): A smart connector for intermediate location in an electrical circuit comprising:

first and second complementary connector bodies which can be latchingly joined together and latched to define an interior volume; the first connector body receiving input conductors and the second connector body receiving output conductors;

a printed circuit board disposed within said volume;

said printed circuit board carrying at least one intelligent circuit component thereon and having conductive contacts formed at opposite ends thereof for electrical connection to said at least one intelligent circuit component; and

first and second terminals mounted in said first and second bodies respectively with spring portions thereof in electrically conductive engagement with said contacts for connecting the input conductors and output conductors to the circuit board and said at least one intelligent circuit component mounted thereon when said connector bodies are latchingly joined together.

Claim 8 (original): A connector as defined in claim 7 wherein guideways are provided in at least said first body to slidably receive said circuit board.

Claim 9 (original): A connector as defined in claim 8 further including means for assuring that the circuit board is placed in the volume in a predetermined orientation and location.

Claim 10 (new): The connector as defined in claim 9 wherein said means includes a rib formed in said second body and an off center slot defined in the circuit board whereby said rib is received in said slot only when said circuit board is inserted into said second body in the pre-determined orientation.

Claim 11 (new): The connector defined in Claim 1 wherein the circuit board includes an intelligent circuit component which is connected with at least one of said conductive terminals when the board is inserted into said guide structures as the bodies are telescopically engaged.